IN THE CLAIMS:

The pending claims are as follows:

1. (Canceled)

2. (Previously Presented) The spacer of claim 73 wherein said osteogenic factor is a purified bone morphogenic protein isolated from bone.

3. (Previously Presented) The spacer of claim 73 wherein said osteogenic factor is selected from the group consisting of BMP-1, BMP-2, BMP-3, BMP-4, BMP-5, BMP-6, BMP-7, BMP-8, BMP-9, BMP-10, BMP-11, BMP-12, BMP-13, a mixture thereof and a heterodimer thereof.

4 - 72. (Canceled)

73. (Previously Presented) A spinal spacer for insertion into a disc space between adjacent vertebrae, said spacer comprising a cylindrical bone dowel configured for engagement within a concave space cut in the adjacent vertebrae, said bone dowel having impregnated therein an effective amount of a first osteogenic composition including a first substantially pure osteogenic factor.

74. (Previously Presented) The spacer of claim 73 wherein the bone dowel is configured with threads for engaging in the concave space cut in the adjacent vertebrae.

75. (Previously Presented) The spacer of claim 73 wherein the bone dowel is configured to be impacted into the concave space.

76. (Cancelled)

77. (Previously Presented) The spacer of claim 73 wherein said osteogenic factor is a recombinant human protein.

78. (Previously Presented) The spacer of claim 77 wherein said osteogenic factor is rhBMP-2, rhBMP-4, rhBMP-7 or a mixture or heterodimer thereof.

79. (Previously Presented) The spacer of claim 73 wherein said dowel is porous and said first osteogenic composition is contained within said pores.

80. (Previously Presented) The spacer of claim 73 wherein said bone dowel is obtained from the diaphysis of a long bone having a medullary canal.

81. (Previously Presented) The spacer of claim 80 wherein the chamber comprises a portion of said medullary canal.

82. (Previously Presented) The spacer of claim 80 further comprising an effective amount of a second osteogenic composition to stimulate osteoinduction, said second composition packed within said chamber.

83. (Previously Presented) The spacer of claim 82 wherein said second osteogenic composition includes a pharmaceutically acceptable carrier having a length which is greater than a length of said chamber and said second osteogenic composition is disposed within said chamber to contact the endplates of adjacent vertebrae when the graft is implanted between the vertebrae.

84. (Previously Presented) The spacer of claim 83 wherein said second osteogenic composition is selected from the group consisting of autograft, allograft, demineralized bone, calcium phosphate ceramics, and an osteoinductive factor disposed within a pharmaceutically acceptable matrix.

85. (Previously Presented) The spacer of claim 73 wherein said bone dowel includes an anterior wall and said anterior wall defines a tool engaging hole for receiving an implanting tool.

86. (Previously Presented) The spacer of claim 73 wherein said bone dowel has an outer surface defining a thread, said thread including plurality of teeth each tooth of the plurality of teeth having a crest between a leading flank and an opposite trailing flank.

87. (Previously Presented) The spacer of claim 86 wherein said crest of each said tooth is flat.

88. (Previously Presented) The spacer of claim 86 wherein said dowel includes a tool engaging portion defining a tool engaging hole for receiving an implanting tool.

89. (Previously Presented) The spacer of claim 88 wherein said tool engaging hole is threaded to receive a threaded implanting tool.

90. (Previously Presented) The spacer of claim 73 wherein said first osteogenic factor is provided in a pharmaceutically acceptable carrier.

91. (Previously Presented) The spacer of claim 90 wherein said carrier is physiological saline.

92. (Previously Presented) The spacer of claim 90 wherein said carrier is buffered sterile water.

93. (Previously Presented) The spacer of claim 90 wherein said carrier is provided as a sponge, a strip, or a sheet.

94. (Previously Presented) A spinal spacer for insertion into a disc space, said spacer comprising a dowel including a chamber and having a wall sized to maintain a desired disc space height, said dowel comprising bone graft and an effective amount of an osteogenic composition including a substantially pure osteogenic factor packed within said chamber.

95. (Previously Presented) The spacer of claim 94 wherein said bone graft is obtained from the diaphysis of a long bone having a medullary canal.

96. (Previously Presented) The spacer of claim 94 wherein said osteogenic factor is a purified bone morphogenic protein isolated from bone.

97. (Previously Presented) The spacer of claim 96 wherein said osteogenic factor is selected from the group consisting of BMP-1, BMP-2, BMP-3, BMP-4, BMP-5, BMP-6, BMP-7, BMP-8, BMP-9, BMP-10, BMP-11, BMP-12, BMP-13, a mixture thereof and a heterodimer thereof.

98. (Previously Presented) The spacer of claim 94 wherein said osteogenic factor is a recombinant human bone morphogenic protein.

99. (Previously Presented) The spacer of claim 98 wherein said bone morphogenic protein is rhBMP-2, rhBMP-4, rhBMP-7, or a mixture or heterodimer thereof.

100. (Previously Presented) The spacer of claim 94 wherein said osteogenic factor is provided in a pharmaceutically acceptable matrix packed within said chamber.

101. (Previously Presented) The spacer of claim 100 wherein said matrix is selected from the group consisting of calcium sulphates, polylactic acids, polyanhydrides, collagen, calcium phosphates, polymeric acrylic esters, and mixtures thereof.

102. (Previously Presented) The spacer of claim 100 wherein said matrix is a biphasic calcium phosphate ceramic including hydroxyapatite and tricalcium phosphate.

103. (Previously Presented) The spacer of claim 102 wherein the ratio of hydroxyapatite to tricalcium phosphate is between about 0:100 and about 65:35.

104. (Previously Presented) The spacer of claim 94 wherein said bone dowel includes a tool engaging hole for receiving an implanting tool.

105. (Previously Presented) The spacer of claim 104 wherein said tool engaging hole is threaded.

106. (Previously Presented) The spacer of claim 94 wherein said bone dowel comprises an outer surface defining a thread.

107. (Previously Presented) The spacer of claim 106 wherein said thread has a flat crest having a width of between about 0.020 inches and about 0.030 inches.

108. (Previously Presented) The spacer of claim 106 wherein said thread has a leading flank and a trailing flanks defining an angle therebetween of between about 50 degrees and about 70 degrees.

109. (Previously Presented) The spacer of claim 106 wherein each said thread has a height between about 0.030 inches and about 0.045 inches.

110. (Withdrawn) The spacer of claim 94 wherein said graft is a cortical ring obtained by a cross-sectional slice of the diaphysis, said ring including superior and inferior surfaces and said osteogenic factor is a bone morphogenic protein.

111. (Withdrawn) The spacer of claim 110 adapted to withstand a compressive force of at least 10,000 N.

112. (Withdrawn) The spacer of claim 111 adapted to withstand a compressive force of at least 20,000 N.

113. (Withdrawn) The spacer of claim 110 adapted to exhibit a fatigue strength of at least 3200 N at five million cycles.

114. (Withdrawn) The spacer of claim 113 adapted to exhibit a fatigue strength of at least 7000 N at five million cycles.

115. (Withdrawn) The spacer of claim 94 wherein said wall comprising a thru-hole into said chamber.

116. (Withdrawn) The spacer of claim 100 wherein said pharmaceutically-acceptable matrix is provided as a sponge, a strip, or a sheet.